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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,630	05/24/2006	Shinya Takagi	034620-144	4372
46188	7590	12/31/2009		
Nixon Peabody LLP P.O. Box 60610 Palo Alto, CA 94306			EXAMINER TORRES RUIZ, JOHALI ALEJANDRA	
			ART UNIT 2858	PAPER NUMBER
			MAIL DATE 12/31/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/580,630	Applicant(s) TAKAGI ET AL.	
	Examiner JOHALI A. TORRES RUIZ	Art Unit 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action has been issued in response to the amendment filed on October 2, 2009.
2. Claims 1-3 are pending.
3. Applicant's arguments have been carefully and respectfully considered. Rejections have been maintained where arguments were not persuasive.
4. Also, new rejections based on the amended claims have been set forth. Accordingly, claims 1-3 are rejected, and this action is made FINAL, as necessitated by amendment.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (U.S. Patent Number 5,932,990), Nakashimo (U.S. Publication Number 2002/0109483) and Baldwin et al. (U.S. Patent Number 6,583,603).

8. Claim 1: Kaneko teaches a DC power supply apparatus (Fig.1, 4); a load device (Fig.1, 3) which is connected to an output side of the DC power supply apparatus (Fig.1); a charging path which is connected to said DC power supply apparatus in parallel with said load device, said charging path including a lithium ion battery (Fig.1, 1a – 1n) for backup that is connected to the output side of said DC power supply apparatus and in parallel with said load device (Fig.1); a switch (Fig.1, 2) that is provided with such function that disconnects said lithium ion battery from said load device (Fig.1) (Col.4, Lines 38-40).

Kaneko does not explicitly teach a switch that is provided with such function that disconnects said lithium ion battery from both of said DC power supply apparatus and said load device when the cell voltage of said lithium ion battery shows overcharging or over-discharging of said lithium ion battery; a charging current limiting circuit, which is provided with a charging current control element that is connected in series with said lithium ion battery and supplies a charging current of an arbitrary value independent of load fluctuations in the charging path of the lithium ion battery; and a control circuit that monitors the voltage value of said charging path, sets a reference voltage setting used for setting the charging current of an arbitrary value in said charging current limiting

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circuit, and controls said switch when said voltage of said charging path exceeds a specified voltage value during charging.

Nakashimo teaches a power supply system comprising a switch (102) that is provided with such function that disconnects a battery (101) from both a DC power supply apparatus (104) and a load device (103) when the cell voltage of said battery (101) shows overcharging or over-discharging of said battery (101) (Par.5 and 30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have had the teachings of Nakashimo in the device of Kaneko to have protected the battery from an overcharged state or an over discharged state (Par.5).

Baldwin teaches a charging current limiting circuit, which is provided with a charging current control element, that is connected in series with a battery and supplies a charging current of an arbitrary value independent of load fluctuations in the charging path of the lithium ion battery; and a control circuit that monitors the voltage value of said charging path, sets a reference voltage setting used for setting the charging current of an arbitrary value in said charging current limiting circuit (Col.9, Lines 3-10), and controls a switch when said voltage of said charging path exceeds a specified voltage value during charging (Col.10, Lines 41-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have had the teachings of Baldwin in the combination of Kaneko and Nakashimo to have isolated the battery from the load to allow proper maintenance

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of the batteries (Col.4, Lines 34-39) and to have prevented the battery from receiving damaging excess recharge current levels (Col.9, Lines 6-10).

9. Claim 2: Kaneko, Nakashimo and Baldwin teach the limitations of claim 1 as discussed above. Kaneko teaches a plurality of said lithium ion batteries are connected in series (Col.4, Lines 32-36), and said power supply system is further provided with a voltage regulation circuit (13) that is connected in parallel with each lithium ion battery of said plurality of series-connected lithium ion batteries (Col.4, Lines 64-67) (Col.5, Lines 1-3), detects a full-charge voltage in each of said lithium ion batteries and bypasses said charging current (Col.4, Lines 55-63).

10. Claim 3: Kaneko teaches a DC power supply apparatus (Fig.1, 4); a load device (Fig.1, 3) which is connected to an output side of the DC power supply apparatus (Fig.1); a charging path which connects to said power supply apparatus in parallel with said load device (Fig.1), said charging path including a plurality of series-connected lithium ion batteries (Fig.1, 1a – 1n) for backup that are connected to the output side of said DC power supply apparatus and in parallel with said load device (Fig.1); a switch (Fig.1, 2) that is provided with such function that disconnects said lithium ion battery from said load device (Fig.1) and connects said lithium ion battery to said load device in a normal state (Col.4, Lines 38-40); a voltage regulation circuit (Fig.2, 13), which is provided with a bypass current limiting element (Fig.2, 24) (Col.7, Lines 29-35 and 44-57), that is connected in parallel with each lithium ion battery of said plurality of series-connected lithium ion batteries (Col.4, Lines 64-67) (Col.5, Lines 1-3), detects a full-

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charge voltage in each of said lithium ion batteries and bypasses said charging current (Col.4, Lines 55-63).

Kaneko does not explicitly teach a switch that is provided with such function that disconnects said lithium ion battery from both of said DC power supply apparatus and said load device when the cell voltage of said lithium ion battery shows overcharging or over-discharging of said lithium ion battery; a charging current limiting circuit, which is provided with a charging current control element, that is connected in series with said lithium ion battery and supplies a charging current of an arbitrary value independent of load fluctuations in the charging path of the lithium ion battery; and a control circuit that monitors the voltage value of said charging path, sets a reference voltage setting used for setting the charging current of an arbitrary value in said charging current limiting circuit, and controls said switch when said voltage of said charging path exceeds a specified voltage value during charging.

Nakashimo teaches a power supply system comprising a switch (102) that is provided with such function that disconnects a battery (101) from both a DC power supply apparatus (104) and a load device (103) when the cell voltage of said battery (101) shows overcharging or over-discharging of said battery (101) (Par.5 and 30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have had the teachings of Nakashimo in the device of Kaneko to have protected the battery from an overcharged state or an over discharged state (Par.5).

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Baldwin teaches a charging current limiting circuit that is connected in series with a battery and supplies a charging current of an arbitrary value independent of load fluctuations in the charging path of the lithium ion battery; and a control circuit that monitors the voltage value of said charging path, sets a reference voltage setting used for setting the charging current of an arbitrary value in said charging current limiting circuit (Col.9, Lines 3-10), and controls said switch when said voltage of said charging path exceeds a specified voltage value during charging (Col.10, Lines 41-48) (Col.4, Lines 42-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have had the teachings of Baldwin in the combination of Kaneko and Nakashimo to have isolated the battery from load to allow proper maintenance of the batteries (Col.4, Lines 34-39) and to have prevented the battery from receiving damaging excess recharge current levels (Col.9, Lines 6-10).

Response to Arguments

11. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

12. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the charging current limiting circuit can supply sufficient power to the lithium ion battery while the DC power supply apparatus sufficiently supplied a drive current to the load) are not recited in the rejected claim(s). Although the claims are interpreted in light

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of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHALI A. TORRES RUIZ whose telephone number is (571)270-1262. The examiner can normally be reached on M- F 9:30am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward Tso/
Primary Examiner, Art Unit 2858

/J. A. T./
Examiner, Art Unit 2858